

NETWORK ART SERIES

THE PHILOSOPHY OF SPACE



场的 白

Ubiquitous Art 随时随地 通讯的艺术

[日] 山本圭吾 著

“Ubiquitous”这个词最早出现在1984年，由Mark Weiser提出。它的意思是“无处不在的”，指的是那些我们随时随地都能接触到的技术。在本书中，山本圭吾探讨了这种技术在艺术领域的应用，以及它如何改变了我们对空间和沟通的理解。

被解释为“任何地方，任何时间，任何人都可以”。我们大家生活中的各个环节，存在着像纸一样的电子系统。最早说出这句话的是美国施乐公司Palo Alto研究所的已故Mark Weiser先生。今天，

只要在这些家用电子产品里加入IPv6(Internet Protocol Version 6)管理数据，通过英特网或是移动电话也可以在任何时间，对所有的数码家电进行远距离操作。这就是现在在日本被注目化的Ubiquitous(随时随地通讯)型环境。总之，我认为从现在开始数码电器，

中国·长沙·岳麓书院
湖南大学出版社

空 学

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Keiko YAMAMOTO

Introduction

1 概 论

Introduction

1.1 随时随地通讯的艺术时代

就像报纸、杂志等媒体无处不在一样，电脑也已经被应用于日常生活的各种场合。这个无处不在的电脑世界已成为艺术表现的媒体，带着强烈的感性开拓着新的领域。

这次我们使用在随时随地通讯的手段中最发达的移动电话和互联网，在以下3个部分中做艺术表现的尝试。我们以“门”作为副标题，“门”有很多特质。它将精神里的假想世界和我们生活的现实相区分，相链接，它就像存在于虚拟空间和现实空间之间的一扇窗户。

随着信息传送时间的0秒化，如何支配空间，假想世界和现实之间又存在着什么样的关系和意义？在那时，会遇到什么，会发现什么，会听到什么，可能诞生什么样的新的艺术？这就是我们想探寻的。

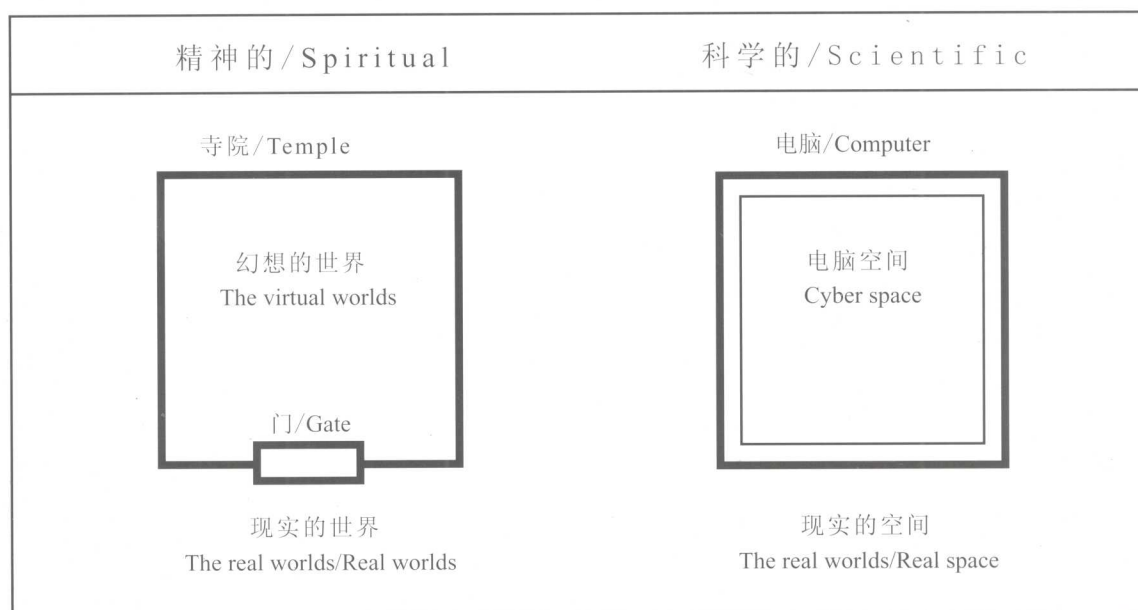
1.1 The Arrival of the Age of Ubiquitous Art

Like the medium of Japanese paper is employed in various scenes, computers have come into common use. The ubiquitous computing would become a device for an artistic expression and also the sensuous vehicle of the new field of art. This time we make use of mobile phones and the internet, the ubiquitous media forms in the utmost progress.

As an associate subject I take up a gate which with a large variety has the properties of boundary and juncture; the boundary between a virtual world of mind and the reality where we live, and the juncture of those two worlds.

The gate looks like a computer frame lying between cyberspace and the space of reality. My question focuses on the relationship or interaction between a virtual world and reality through a shared sense of space at a distance resulting from the decrease in the response time between the participants to zero second.

I would like to explore the new art form that can be achieved within the frame of the "gate" through unknown meeting, finding, and hearing.



1.2 场的哲学化

所谓“场”就是指某事正在发生或正在进行的地方。它一般作为像“现场”、“战场”、“运动场”等表现空间的语言使用。它也作为像“临场”、“场合”、“开场”等反映在不同空间下的状况的语言使用。因此“场”被使用在不同的场合下会有多种多样的含义。

移动电话已经突破了传统通话的功能，随着可视电话、数码拍摄等功能的出现，使它在迅速传递“场”的状况这一点上显得得心应手。

演播室的大型摄像机，由于便携化的发展，走出了演播室，带给了我们全新领域的报道。又是由于摄像功能和录像功能在“Betacam”中实现了一体化以后，大大拓展了摄像和表现的空间一样，我相信移动电话也会由于被赋予了摄像和信息传输的功能，使被表现的世界变得更加宽广。

1.2.1 如果能将“场”的关系明确化

由于实现了接近0秒化的高速信息通讯，时间的因素被忽略，使我们能够明确地看到两地“场”与“场”之间的关系。比如说，通过x时的A地点和B地点的天气预报之间的关系，我们可以推测出C地点的y时的天气情况。同样的，很多事情也可以通过这样的分析来进行推测。

就拿我在想举1992年的「Documenta 9」中，以影子作为表现手法的作品为例。

那是在相隔9000公里的Kassel市和福井市美术馆之间进行的。让表演者面北而立，随着时间的变化在地面上投下了与北方形成一定角度的影子。根据拍摄影子的照相机的角度，如果从头部摄影的话拍出来的效果头部很小、很短。如果把通讯传送回来的kasseru和福井二个地点影子的脚下部分合成的话，

1.2 The Arrival of the Age of Ubiquitous Art

The word Ba means something happens or a place where something takes place and used in many words, such as *Genba* [Scene], *Shokuba* [Workplace], and *Honba* [Home], to speak of space. It is also used to talk about the state of the space, as seen in *Natsuba* [Summertime], *Fuyuba* [Wintertime], and *Miseba* [Climax time]. In some of the Japanese expressions, including *Sonoba sonoba no omoitukide mono wo iu* [To say different ideas on a whim from time to time], *Baai ni yotte wa* [Depending on time], *Ba* contains the element of time in its meaning, too. In this case it can be replaced by *toki* [time], so *Sonotoki sonotoki no omoitukide mono wo iu*. This is only to say that *Ba* has various different meanings according to the different scenes where it is used. There is even an expression, *Ba no jyokyo* [Conditions of Ba] and the use of the word *Ba* varies, such as the mood, state, or expression.

In relation to *Ba*, a mobile phone equipped with video phone and digital camera capabilities is very convenient because it conveys the nuance of *Ba* in real time as it is. It seems open to future possibilities, as a suitable tool for a mobile interview, for example.

When a large-size video camera became portable and got out of the studio, a new world of reporting was born. Similarly the invention of Beta Cam which integrated video and recording functions into one body has brought about a great change into the world of film and expression respectively. We employed the mobile phones equipped with video communications capabilities on the grounds that they would step up new expressive possibilities too.

1.2.1 On the connection of Ba

The data communications make it possible to perceive the precise connection of *Ba* between two remote places, enabling to receive the transmitted data in real time almost within zero second. With the technologies reading and prospecting various matters would become possible, for example from the relationship between weather forecasts of location A and B at x o'clock, we would be able to guess the weather at location C at y o'clock.

On the occasion of 1992 Documenta 9, we exhibited the expression using shadows, between Kassel, Germany and Fukui City Art Museum, Japan, the distance between the two is 9000 km.

Performers stood toward the north casting their shadows on the ground. The shadows changed their

是完全吻合的。不过，总体来看却是有一定角度、长短不一的两个影子。这是把时差及纬度差以影子的形式表现出来，也是通过影子进行对话和交流的表现。

1.2.2 条件设定和表现

根据某些条件设定，从相隔了9000公里的德国的kassel和日本的福井的关系当中创作出来的作品。而且2003年11月正值“日德网络艺术节”。一边考虑“雨”“飞”这样的象形文字的“汉字”一字的意义和状况，一边又在相隔了9000万多公里的凯卢林描绘那个“雨的影子”的印象。描写那个印象的时候“写字时用的劲儿的强弱”“空间”，被转换成了“声音”。像这样，条件设定的方法的不同，直接左右作品的好坏。不管怎样，为了明确两个关系的“条件设定”是有必要的，根据条件设定方法如何，“表现的世界”和“空间的关系”“空间的状况”“空间的表情”或清晰，或模糊，或深，或浅。总之，这是“空间”哲学化的思考法之一。

1.2.3 虚拟世界所带来的真实感

相隔遥远的AB两地人们用电话通话时，虽然声音是通过电波转化而成，是虚拟的，给人的感觉却如同人就在身边，面对面的交谈。丝毫感觉不到是和相隔了几千公里的人说话，即“因为虚拟而觉得真实”。比起像电视、广播的单向传输，像电话这样能双向交流，更使人没有空间的距离感。即两种想法，两种感觉的A和B之间是“由虚拟结成的现实世界”。

length at various angles to the north, each one was taken with different proportions according to the angle of cameras which took them. When a long shadow was taken by the camera from the side of the performer's feet, for example, the head looked small and short in pictures. Transmitted images of the shadows from two stations of Kassel and Fukui were processed to form a composite one in which from the same starting point on the side of the feet two shadows of different length stretched out at different angles. This expression can also be thought of as a dialogue or negotiation through the shadows whose shapes express the time difference and longitudinal gap between the places.

1.2.2 Condition settings and expression

This is our work which relies on the relationship between Kassel and Fukui under certain conditions.

Again in Japan-Germany Network Art which took place last year, performers in Kassel almost 9000 km away painted the shadow of transmitted images of some Chinese characters, hieroglyphics each of which had associated meanings and shapes such as 雨(ame) [rain] or 飞(tobu) [leap], while imagining the meanings or situations they represented. The strength of each brushstroke or intervals of the movements of the performers are transformed into sound. Therefore the quality of the works depends greatly on under which conditions the performance was made.

It is necessary to set down conditions to clarify the relationship between two places because they determine the world of expression, making the connection, state, or expression of Ba look apparent at one time and vague sometimes, or deep and shallow. In other words, the expression is one way of philosophical thoughts of space.

1.2.3 Interactive reality

When speaking to a person in the distance by phone, we feel as if the person were right next to us, though we are only listening to the 'virtual voice'.

It does not occur to us that we are speaking to someone hundreds and thousands of kilometers away from ourselves. This is to say that we feel virtual reality to be real.

In the situation of the telephone conversations, unlike a one-way broadcasting system, the mutual exchange of words help people remove the sense of distance. In other words, the virtual reality connects the real worlds of two people with different ways of thinking or feeling.

1.2.4 由两个地点和视点构成的立体视觉

我们都是用两只眼睛看事物的, 机器人也有两只眼睛, 可是摄像机却只有一个镜头。正因为人和机器人有两只眼睛才能立体地把握空间和“场”。

我们在思考或观察某一问题的时候, 如果拥有两个以上的支点或视点的话, 就能够有更加客观的把握。也就是说, 在网络上构筑两个以上的视点, 能够让我们感受到更具有真实感的世界。这次, 我通过位于两个不同地点的不同视点, 围绕同一个主题进行表现, 就是为了实现这一点。

1.2.5 直线式的拼贴画表现

在用移动电话的拍摄功能制作的作品中, 很多是将一个镜头所拍摄到的图像进行排列, 构成直线式的拼贴画。它的制作流程, 就像下面列举的图解, 因为没有加入交流的对象, 很容易变成自言自语。

1.2.4 Three-dimensional expression from multiple perspectives

Generally speaking, a human being has two eyes and so does a robot. They grasp space while seeing it three dimensionally with their two eyes. On the other hand, a video camera has only one camera.

It seems that more than two bearings and viewpoints are of more navigational reliability than one. In other words, the way of seeing reality depends on how to build more than two viewpoints and network them. This is why in our implementation we employed two remote places or viewpoints that exchanged live images taken on the same subjects.

1.2.5 A Linear collage

Another example of expression is a linear collage which uses camera capabilities of a mobile phone and arranges a collection of images taken by its one camera eye in a line. The procedure for this expression is illustrated below, but in the process without a dialogue great care must be taken so the performers should not end up with self-satisfaction.



直线式拼贴画的表现过程 / The process for a linear collage

1.2.6 技术和精神的融合

就像由化学反应生成图像的摄影技术发明后就产出了摄影艺术,进入电子媒体时代后,由于能够记录动画的录像技术的产生,随之诞生了映视艺术那样,“技术和人类精神的融合”,总会开辟出新的领域。

我坚信把我们多年以来不断进行研究和实践的电子音乐、映像、电脑融合为一,在加上“通讯”和“精神”的互相作用,就会产生各种各样的新领域。所以我多年以来一直从事网络艺术的创作。

1.2.7 通往内在精神的“场”

在本次展览会4个不同地点的拍摄,如果仅仅是拍摄景物本身,不管拍得多么写实、漂亮,都不能成为艺术。我要传达的是超越景物本身的那些寺院和神社所具有的内在气质。我希望通过我的表现能让大家感受到那些寺院和神社里的“空气和味道”。从而达到一个表现的新境界。

为了配合表现的主题,我选择了“人影”、“水”、“灯”等作为副标题。

从现代艺术的视点看,寺院和神社似乎非常遥远,但在“文明间的问题”突显的21世纪,对传统文明的表现也具有现实意义。比如在日本,各村都有寺院和神社,各个家庭都同时设有神盆和佛坛,却能很自然地融合到一起。就像我们能将右眼和左眼看到的日常生活的空间融合到一起一样。

1.2.6 A fusion of technology and inner space

The invention of the art of photography reproducing an image through chemical reactions has led to a new language of images. In the age of digital media, the invention of a video enabling to take a motion picture brought about a new art form of video art. Those new fields were thus created in the exchange between electronic technologies and the inner space of human beings.

I have been engaged with the network art with the belief that the fusion of developed electronic technologies, including an audio, video, and computer, through the interaction between the enabled communications and inner space, will broaden the entire spectrum of expressive possibilities beyond established genres.

Owing to the development of digital media, today's data communications networks are characterized by their multiple channels surrounding their receivers and senders which evolve from a one-way information media, such as a letter and newspaper. What seems further required for the networks seems to provide an integrated design of real and virtual worlds augmenting users realities through mutual exchanges between their five senses, including sight and touch. Our network art has been exploring the theme of the fusion of technologies and inner space.

1.2.7 Space for the dialogue with inner space

However exact pictures can be taken, just filming a subject is not interesting enough to be called art. We would like to express the atmosphere or spiritual energy lying beneath the surface of the temples and shrines. It would be great if we could create new expressive possibilities for the vague subjects unique with the places through the dialogue with our senses.

We chose a silhouette, water, and light, as sub-themes because they were likely to reflect those dialogues.

Shrines and temples look far apart from subject matters of contemporary art. However, they would give a hint for expression in the twenty first century when a between cultures problem would become an inevitable agenda. In Japan, each village has both a shrine and temple, and each household has a Shinto and Buddhist altar, both of them blend with each other and stand in harmony. They look as if they were capturing the whole picture of everyday space with their both eyes.

1.3 随时随地通讯的艺术

最近“Ubiquitous”这个单词与我们的生活变得越来越息息相关。“Ubiquitous”来自于拉丁语,在拉丁语里的意思是“各个地方都存在,无处不在”。在日本,被解释为“任何地方,任何时间,任何人都可以”。

我们大家生活中的各个环节,存在着像纸一样的电子系统。最早说出这句话的是美国施乐公司paroaruto研究所的已故的Mark Weiser先生。

今天,台式电脑和笔记本电脑仅仅只占有电子系统产品的2%,与其相比,十倍以上的其他拥有电子系统的产品正在被广泛使用。比如说,移动电话、冰箱、洗衣机、小汽车、电子手表、微波炉、电风扇、电视机、电饭宝、热水瓶、空调,还有被电气化了的浴室、厨房、蓄热暖房器等等,只要在这些家用电子产品里加入IPv6(Internet Protocol Version 6)管理数据,通过英特网或是移动电话也可以在任何时间,任何地点对所有的数码家电进行远距离操作,这就是现在在日本被广泛注目的Ubiquitous(随时随地通讯)型环境。总之,我认为从现在开始数码电器,将进入可以在任意的时间,任意的地点进行远距离操作的“Ubiquitous社会”。

1.3.1 关于表现题目

我认为在不久的将来,日本公司的职员会议中,移动电话的电视会议系统将会被广泛推广,也许现在电话公司的收费方式还没实行定额制,可能会要付出高额的费用,大家还会直接汇合起来讨论,但在不久的将来肯定会采用移动电话所附带的电视会议系统。

话题再回到我们的这次展览会。首先各个会场使用的设备都是Ubiquitous型的设备,当然附带电视会议系统的移动电话(FOMA)是最具代表性的,将感性和精神,及与之深深相关的艺术链接,并且借助“Ubiquitous”的思考。我认为,一种将超越目前传统艺术概念的,全新的艺术将会马上诞生。

在东京(浅草寺)、名古屋(大须观音)、京都(平安神宫)、福井(朝仓氏遗迹)4个地点,使用移动电话(FOMA)将“虚幻的世界”和“现实的世界”相链接,并在链接这一理念上,设定“门”为首的各种表现主题。

1.3 Ubiquitous art

The word ubiquitous is originally a Latin term with the meaning of seeming to be everywhere and ubiquitous computing means the age when computer technologies recede into the background of our lives, just like paper has been used in the same manner. It was first articulated by the late Mark Weiser at the Xerox Palo Alto Research Center, and according to him computing consists of three waves with ubiquitous computing in the end.

Today desktop and notebook computers account for only two percent of computer occupancy while tens of thousands of embedded computing devices are in use. Home appliances, including a refrigerator, washing machine, car, watch, microwave, electric fan, television, rice cooker, pot, air conditioner, an electric tub, kitchen, or heating system, as well as a mobile phone, are integrated with the invisible computer that is so imbedded and fitting households. Ubiquitous architecture has tied to wireless networking expanded by an IPv6 (Internet Protocol Version 6) service which increase the number of IP addresses for all those digital home appliances. Provided with addresses, the home appliances are networked so people operate them on the Internet from a mobile phone.

Thus the ubiquitous society where people have remote control of those digital appliances at will just begin.

1.3.1 Subjects for expression

It would be ideal to make use of FOMA teleconference systems for staff meetings, but without a flat-rate charge system the subscription would cost extraordinarily high. So this time the staff at each station had some face-to-face meetings. We would like to hold a mobile teleconference at the next opportunity.

The staff at each station used FOMA mobile phones with videophone capabilities, ubiquitous tools at the foreground. The integration of the art expression involving deeply with the sensitivity and inner space, with ubiquitous thinking would result in a new and innovative art form.

We connected to four places, Tokyo (*Sensouji temple*), Nagoya (*Osu kannon temple*), Kyoto (*Heian jingu shrine*), and Fukui (*Fukui City Art Museum*) by the FOMA mobile phones. As subjects for expression we set up the themes on the next page, including a gate which symbolically marks off sanctuaries from the mundane worlds so takes an important role in linking 'virtual' with 'real' worlds.

1.3.2 表现题目

拔河(佛与人在相距很远的两个寺院之间)

寺院里参拜的各种场面(例)

摇铃的场面

合掌祈祷的场面

抽签的场面

摇吊绳的场面

向佛祖献礼钱的场面

插香火的场面

插蜡烛的场面

在洗手池打水花的场面

通过门的场面

其他还有鼠、牛、虎等十二生肖的参拜场面(模型代替)。日本福井县曾经有过恐龙,可以考虑用拼贴的方式来代替表现。然后还有用石头的排列来表现参拜场面。证可以考虑用象形文字与其文字的本意相吻合的场面来进行表现等等。另外,我觉得关于寺院及神社的空气及呼吸(精神能量)也是用来表现的很好方案。

此外,还有相似形、影、灯、雨(伞)、水、空等等。

1.3.3 使用移动电话(FOMA)进行及时通讯

这次展览会由于电子编辑器材不足的原因,只实行了4个地点中以2个地点为一组的交换式表现。东京、名古屋、京都、福井4个地点的会场,比如说分成A, B, C, D的话,就可以结合成AB, AC, AD, BC, BD, CD6个组合。这样也可以组合成多样的表现方式。

当然在下次的展览会中,我们不仅仅会使用4个地点的映像,还将考虑使用从世界各地传送来的映像,由现场同步处理播放。

至今为止的映像表现形式是从单一视点出发的直线拼贴形式,而从现在开始,我觉得表现形式将会由于“Ubiquitous”的思考方式的出现,向多视点出发的多面体表现时代转换、发展。

1.3.2 Subjects for expression

Tug-of-war (A tug-of-war between Buddha and human beings in two temples or shrines far from each other) Worship at a shrine (A linear collage of acts of religious ritual as follows)

For example; a scene of jangling a bell hanging over the offering box, clapping the hand as a token of gratitude, drawing *omikuji* lots (a method of fortune telling), dedicating a votive picture called *ema*, tossing a coin into the offering box in front of the sanctuary or oratory, offering incense sticks, lighting a candle, pouring clear water over the finger tips with the purpose of purification, passing beneath a *torii* gate to enter the sanctuary.

Other examples were worship at a shrine by miniatures of the twelve zodiacal signs, such as a rat, an ox, or a tiger, as well as by a miniature of Godzilla whose home was Fukui prefecture or even by an arrangement of stone.

Other subjects also included various scenes associated with following characters whose shapes and meanings would create new expressive possibilities of the atmosphere or spiritual energy of the shrines and temples.

相似形(*soujikei*)[Similarity],影(*kage*)[Shadow],灯(*tou*)[Light],雨(*ame*)[Rain],伞(*kasa*)[Umbrella],水(*mizu*)[Water],空(*sora*)[Void]

(Please see Philosophy of space or work concepts in Tug-of-war for reference)

1.3.3 Foma real time communications

Due to the lack of digital editing media we performed a basic way of expression making two pairs of communications out of the four places illustrated in the next page. Supposing that the four stations of Tokyo, Nagoya, Kyoto, and Fukui are respectively A, B, C, and D, we could form six different combinations of AB, AC, AD, BC, BD, CD finally.

Next time we would like to develop the expression and broadcast live images sent from multiple places around the world besides those from the four stations.

I hope that our expressions more or less made a success in interpreting the evolving art form of video. This is to say that combining ubiquitous computing with the media technologies has established versatile expressions with multiple viewpoints, while many of the conventional art forms remained a collage of personal expressions.

1.3.4 上映及播放场地的多样化, 多面化

首先考虑的是用下图的4种系统方式来表现和观赏。我认为这个任何时间,任何地点,任何人都可以的思考方法,是非常大众化的思考方法。本次展览会所采用的系统是:观众不仅仅可以观赏作品,并且在自己想参加的时候,在任何地方都可以很简单的参与。

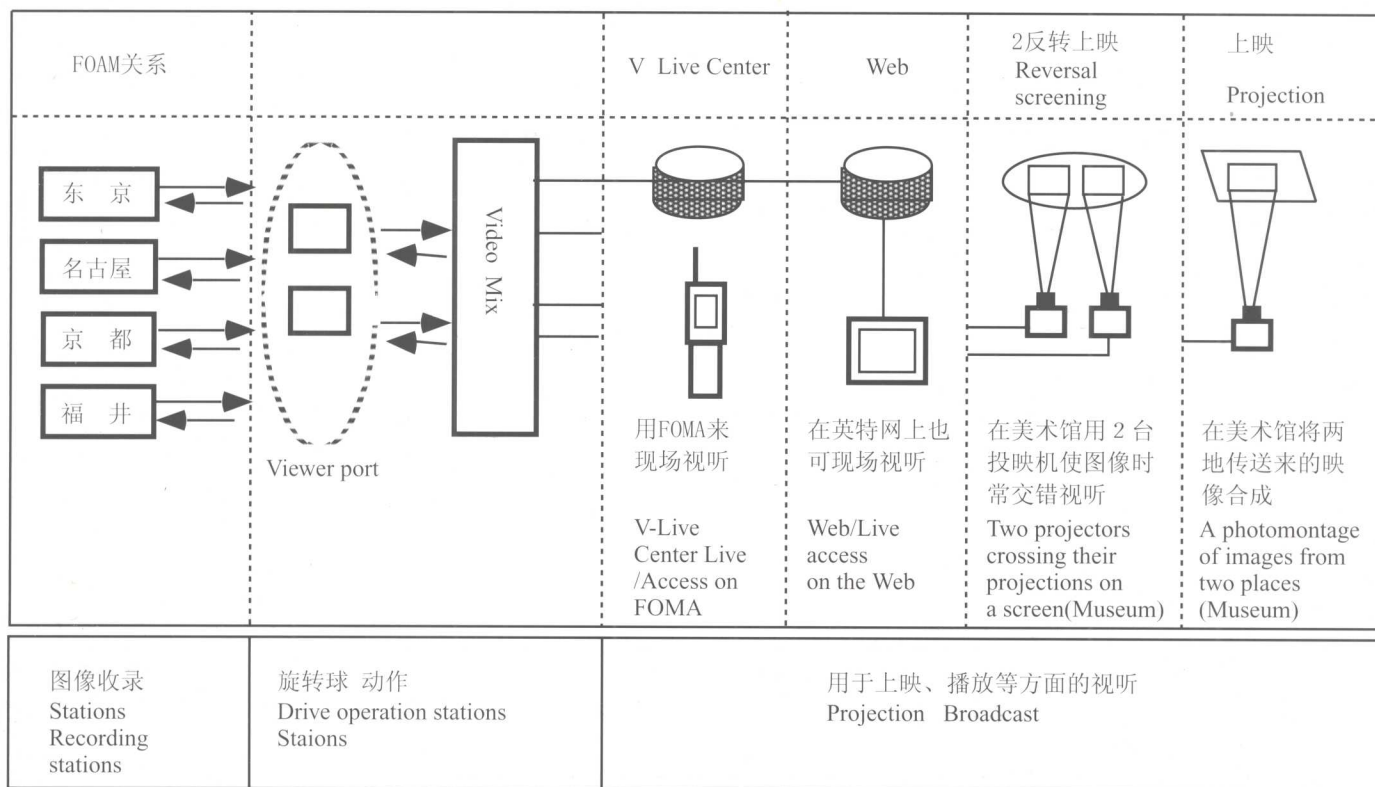
这次所使用的移动电话(FOMA)是属于第三代的移动电话,拥有电视电话的视频功能,并且拥有可与宽带网相媲美的通讯速度。用移动电话(FOMA)拍摄的映像可直接传送到设置于福井市美术馆的控制中心,并且可以实施画像收录、编辑、播放、视听同步进行。

让各种各样的器材的功能高度链接,使在任何时间、任何地点进行远距离同步操作已变得可能。

1.3.4 Diverse versatile broadcast systems

As shown in the diagram below at least four different ways of expression and appreciation were possible. (Please see the diagram in page 33 for the details) It is a fairly democratic idea to provide free access all the time, everywhere. What is more, the systems allow any audience not only to see works but to participate in the activity of art expression on request. The broadcasting or projection spots as well as methods are also getting diverse.

FOMA is a Third generation mobile phone equipped with videophone capabilities, well able to transmit data almost at the speed of ADSL. Images taken by the FOMA phones were received through the viewer port in the temporary located control room of Fukui City Art Museum. It was arranged that the images were distributed through a streaming server using fiber optic cables called FLET'S. In brief, the three processes of recording, operation, and distribution in remote places have become possible. What it amounts to is that linking various functions different apparatuses has enhanced the live performances all the time, everywhere.



4 种方式的Live / Four ways of live distribution FOMA

1.4 为什么选择使用移动电话 (FOMA)

移动电话已成为我们现代人的随身携带品, 移动电话附带的时间功能使我们可以在任何时间, 任何地点都可以很方便地了解时间。但这只能称为“单一的时间功能”, 范围也仅仅局限于随身携带。

在这里, 我们将现在的移动电话所附带的一些主要功能归纳如下图所示, 大概有10种以上的功能, 并且这些功能可在全球规模内任意使用。

1.4.1 任何人都可以拥有移动电话的时代已来到

在日本, 现在每三个人里就有两个人拥有移动电话, 任何人都可以拥有移动电话的时代已到来。并且移动电话的发展已进入高速通讯化阶段, 对于画像通讯及媒体的表现来说, 已成为可能。并且还可以利用移动电话来听音乐, 看电视等等。但我认为在艺术表现方面, 更重要的是如何把移动电话和其他器材的功能相链接, 使之开拓创造出新的能量, 这也是我举办这次展览会的目的。

1.4 Why mobile phones FOMA



To be mobile is 'able to be carried' so people wearing a watch are able to know time anytime everywhere. However, the function of a watch is limited to time within the scope of personal effects.

On the other hand, as shown in the table below a mobile phone has more than ten functions which are capable of communications around the world.

1.4.1 The mobile lifestyle

Now already two out of three people have mobile phones. Thanks to the broadband network, the conventional use of a mobile phone as a passive tool of listening to music or watching television changes.

Today image transmission systems are turning to the media for expression. We plan this exhibition with an idea that a mobile phone would open up new possibilities linking together with other functions of different apparatuses.

手表 / A watch	移动电话 / A mobile phone	
单一功能 / A single function	复数功能的复合融合化	
 <p>手表的功能 / Watch</p>	 <ol style="list-style-type: none"> 1. 声音通讯功能 2. 电视收视功能 3. 英特网, 电子邮件功能 4. 日历功能 5. 字典功能 6. 计算器功能 7. 数码型摄像, 摄影功能 8. 电视收视功能 9. 卫星定位功能 10. 电子钥匙功能 11. 远距离通讯教育功能 <p>其他还有、电子钱包电子月票、及与电脑联结等功能。</p>	<ol style="list-style-type: none"> 1. Sound communications capabilities 2. TV content transmission services 3. URL functions/ Mail services 4. Calendar 5. Dictionary 6. Calculator 7. Digital camera capabilities 8. TV content transmission services 9. Navigation (Global Positioning System) 10. Key 11. E-learning systems <p>Other uses include electric money, commuting tickets, and PC terminals.</p>
<p>作为随身携带品</p> <p>Within the scope of personal effects on the human body</p>	<p>具有全球程度的信息情报交流能力联结能力也非常强 (功能扩张和功能强化)</p>	<p>Network capabilities have grown considerably by advanced communications functions at a global level. (Expansion and development of function)</p>

移动电话的主要功能的关系图解 / Comparison of a watch and mobile phone

1.4.2 移动电话 (FOMA) 合成后的画像可以同步视听

使用移动电话 (FOMA) 不仅仅可以进行通讯, 还可以相互看到对方的映像及双方合成后的映像。并且两个以上的远距离地点传送过来的映像, 经过控制中心的现场同步编辑, 也可以被视听, 也就是说任何人都可以任意参加。

在我们的展览会期间, 观众可以在24小时内, 在自己任意喜欢的时间播打以下的号码 (*8607*98800) 与控制中心链接, 来观看我们的作品。

一般形式的展览会, 在设置展览会场时, 需要花费大量的资金和时间。如果可以很灵活地利用移动电话的视频功能, 不仅可以节约很多资金和时间, 还可以很好地运用于艺术表现。其实在现实生活中, 媒体的报道也可以用移动电话来代替大型的电视直播车。我想这个时代应该也会很快到来。

1.4.3 在现场与英特网直接链接进行播放

通常在英特网上, 声音和映像是以先下载再播放的方式出现的, 传送和播放很难实现同步进行。但这次展览会的系统, 在受信的同时, 也可以同步播放声音和映像, 并且我们的作品可以在自己喜欢的任意时间内任意收看。

1.4.2 FOMA video streaming service

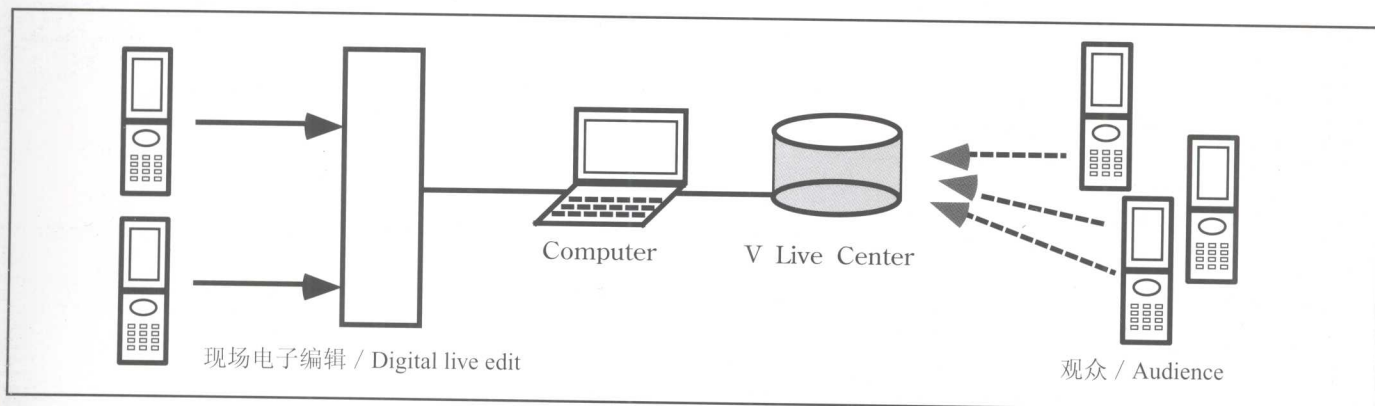
It has been well-known that FOMA subscribers can receive and send video mutually. What is more important, however, is that any subscriber can simultaneously access to the live video content using digital compiling technologies of editing images from more than two remote places, by dialing up the specific V-Live Center access number for FOMA phone terminals.

Then during the session we set up twenty-four image transmission platform which enable an audience with FOMA to access V-Live Center anytime at the following number; *8607*98800

In addition, the broadening communications capabilities of a mobile phone made it possible to build a station in less time with fewer cost than it has ever before. Soon journalists would be able to cover a report by mobile phone without sending a report through the news relay.

1.4.3 Access to the live distribution on the Internet

A streaming transmission is a one-to-many video streaming system for enabling the multiple use of a transmission where users can download live sound and image contents on the Internet while replaying them at the same time. In old days users could not reproduce a file until it is completely downloaded, but the new system makes it possible to access and stream a variety of content in real time regardless of ongoing tasks.



使用移动电话在展览会期间同步视听 / Mobile live transmission